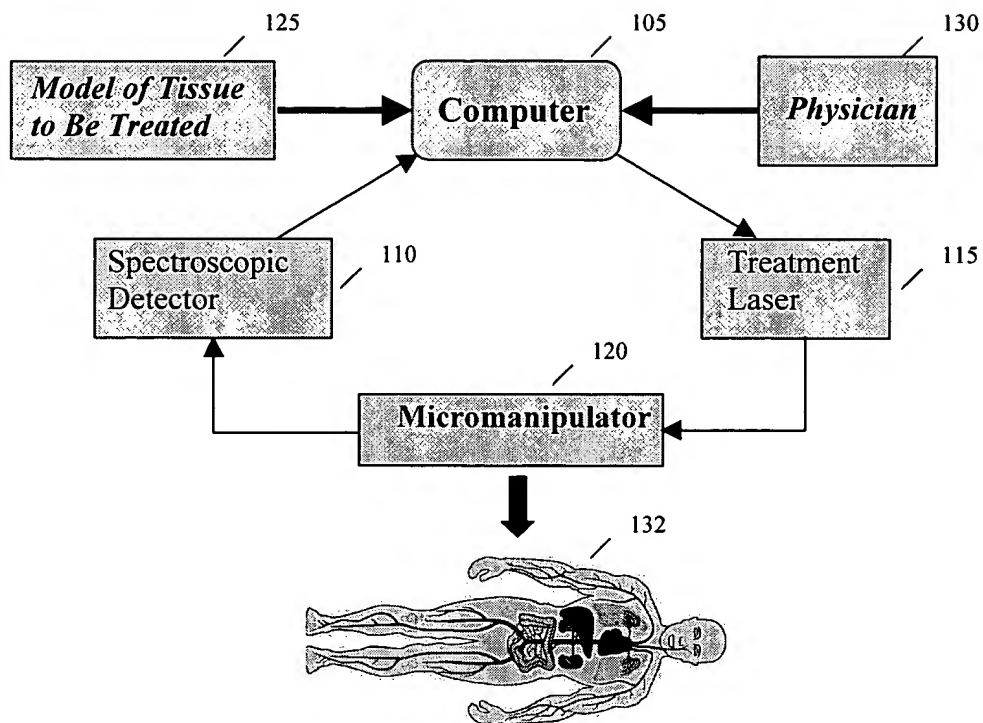
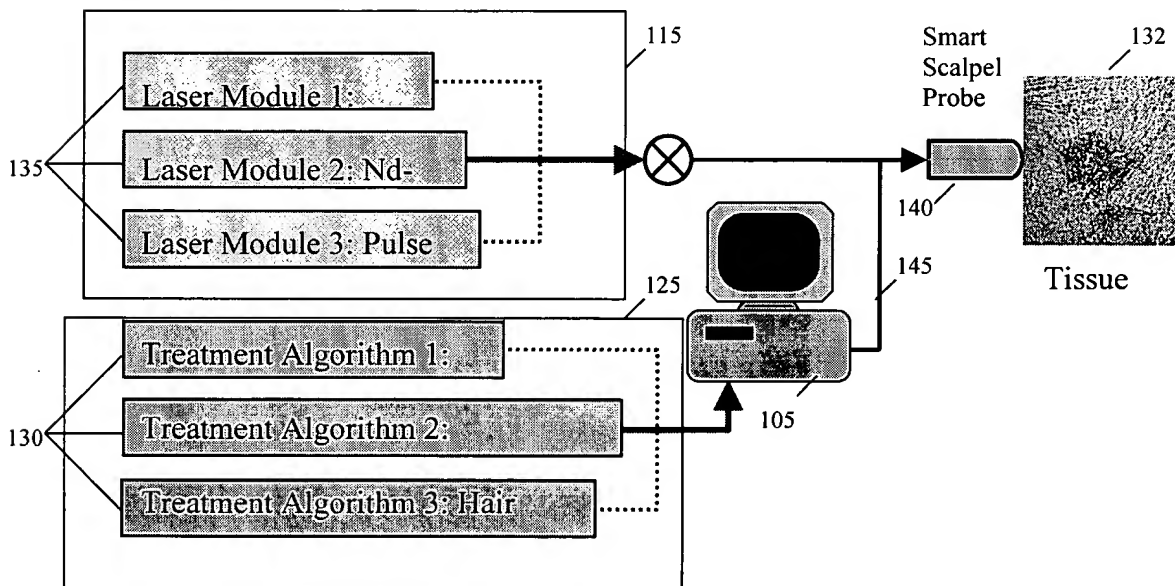


205020-11504350



100

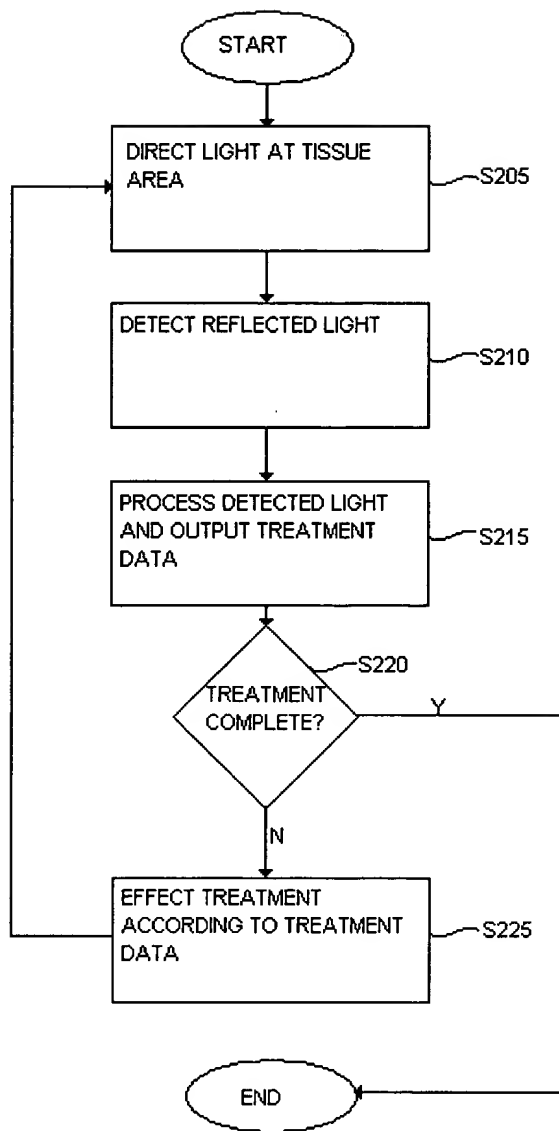
FIG. 1A



100

FIG. 1B

205020-11504350



200

FIG. 2

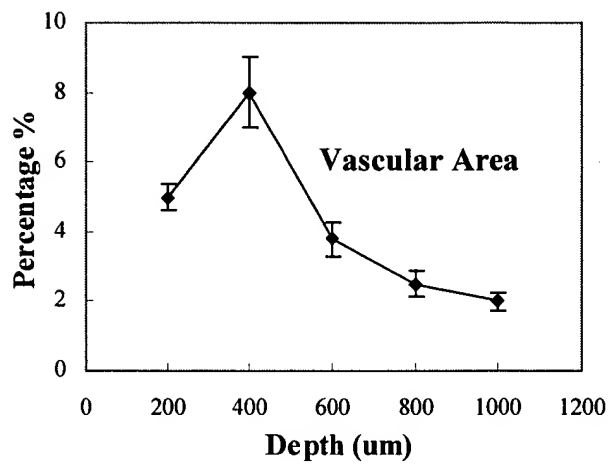


FIG. 3A

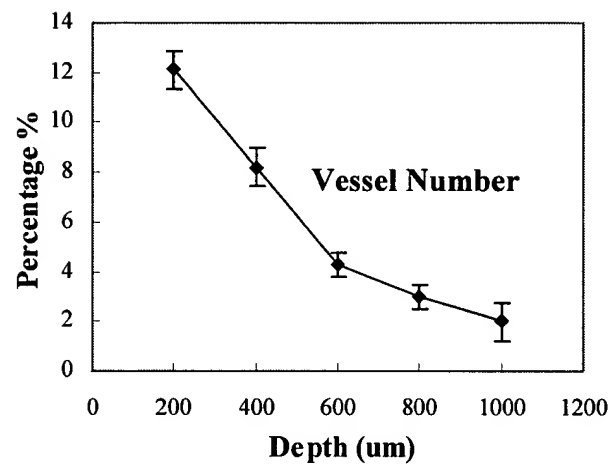


FIG. 3B

205020-11504860

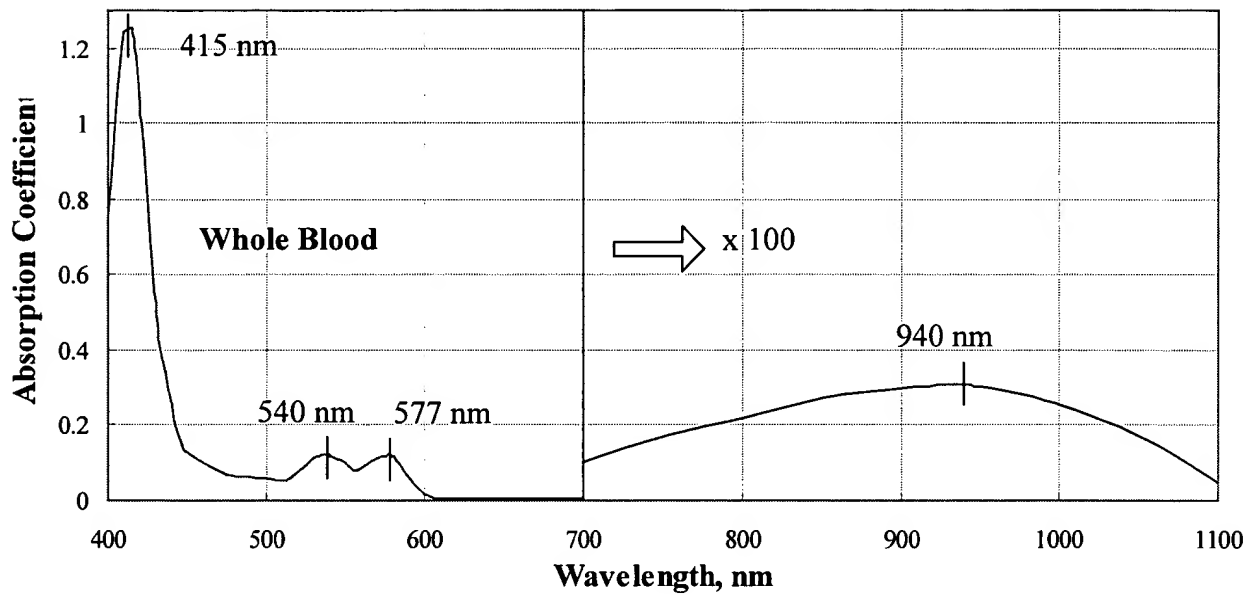


FIG. 4

Laser	Wavelength (nm)	Treat Fluence (J/cm²)	Type
Argon	488, 514	1-10	CW
Classic KTP	532	10-40	CW
Cu or Cu-Br	512-578	1-10	CW
Krypton	570	1-10	CW
Pulse dye (yellow)	585	4-8	Pulsed
Derm-KTP	532	2-20	Pulsed
Pulsed dye (green)	510	3-5	Pulsed
Q-sw. Nd:YAG – green - infrared	532 1064	3-5 4-10	Pulsed
Q-sw. Ruby (red)	694	4-10	Pulsed
Q-sw. Alexandrite (infrared)	755	4-10	Pulsed

FIG. 5

2050220-11502800

205020-11502850

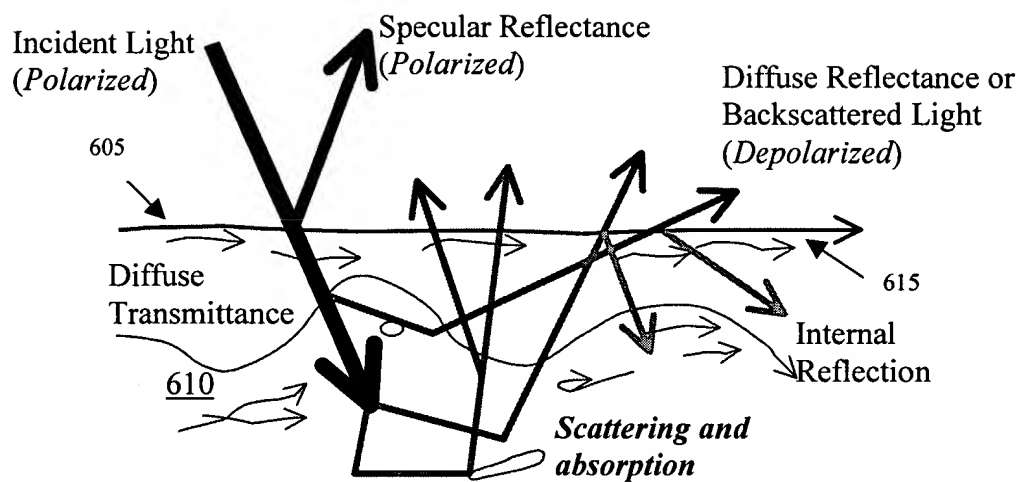


FIG. 6

Tissue	λ (nm)	μ_a (mm ⁻¹)	μ_s (mm ⁻¹)	G	μ_s' (mm ⁻¹)	μ_t (mm ⁻¹)
Human dermis	633	0.27	18.7	0.81	3.553	3.823

FIG. 7

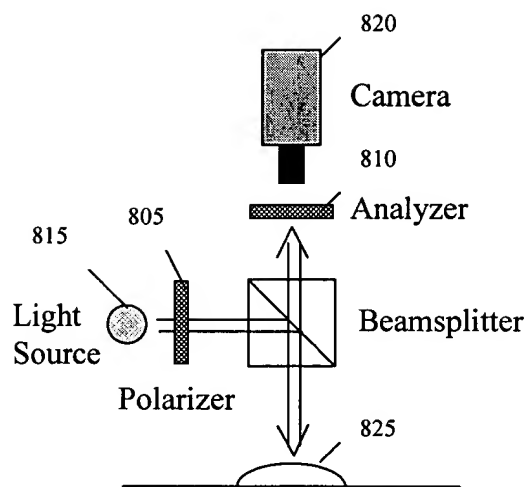


FIG. 8A

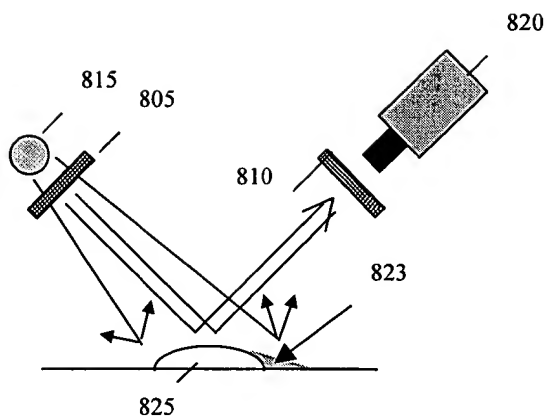


FIG. 8B

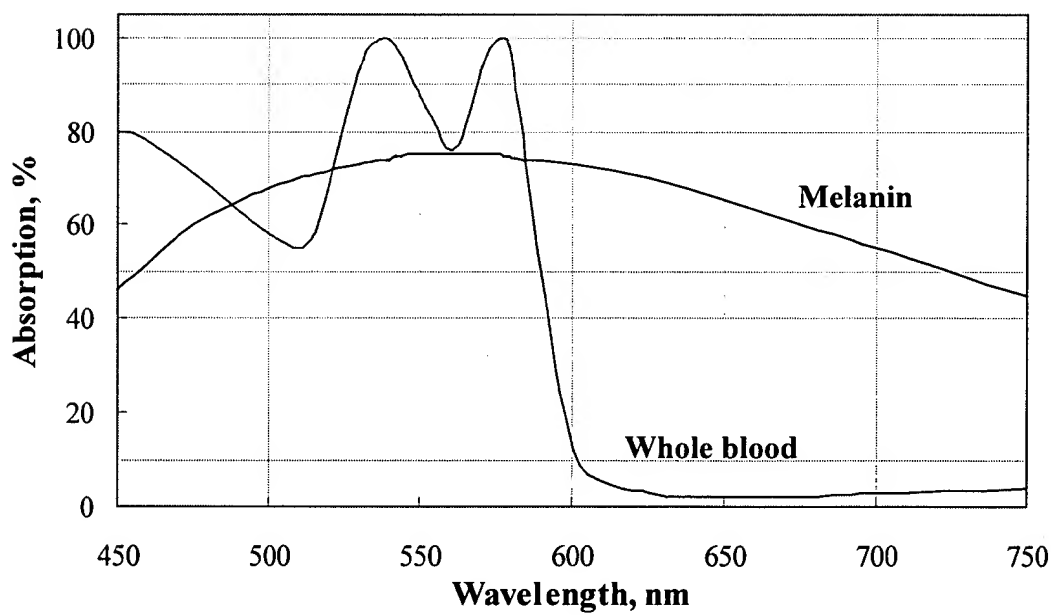
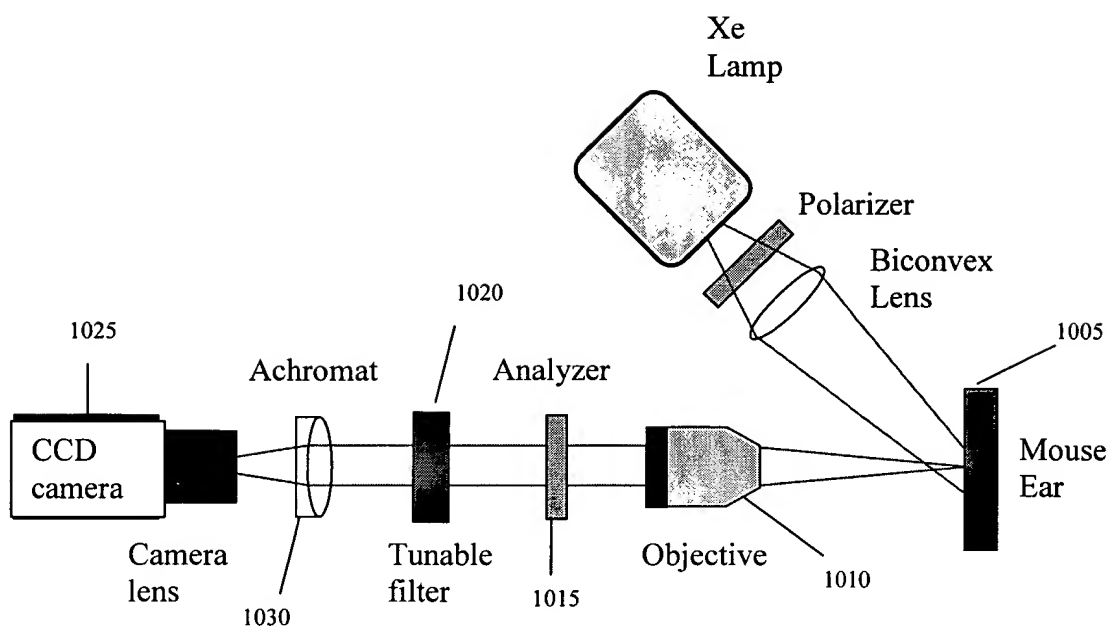


FIG. 9

20250207-11504860



1000

FIG. 10

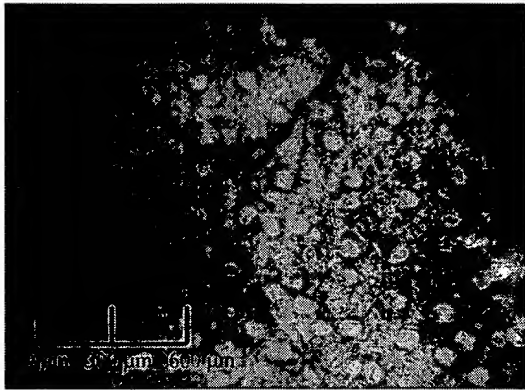


FIG. 11A

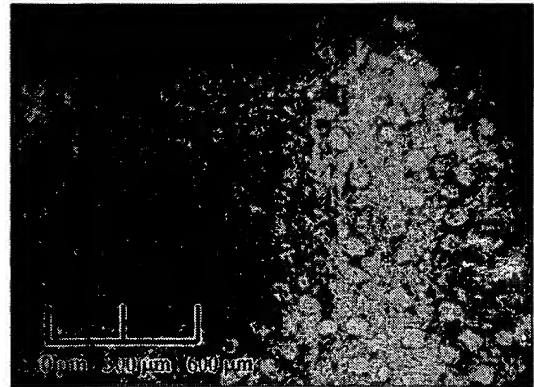


FIG. 11B

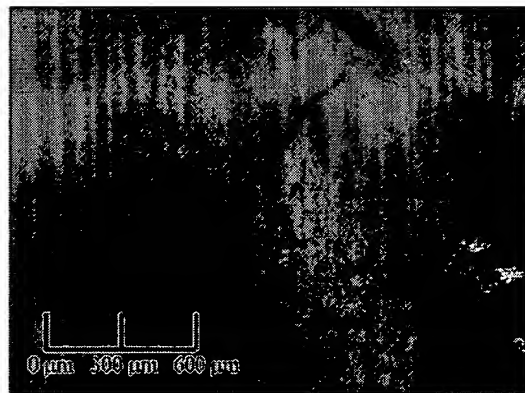


FIG. 11C

205020-11504860

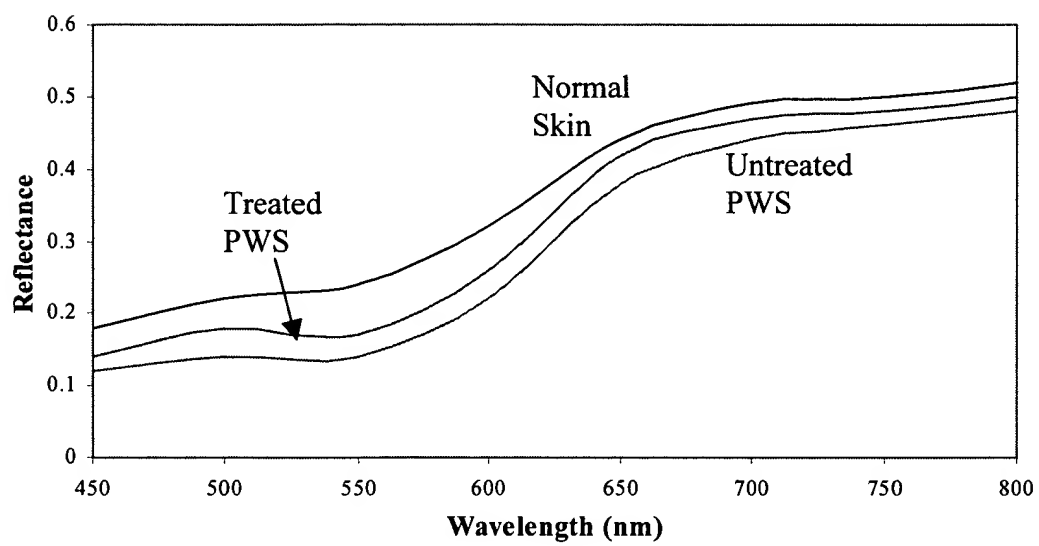


FIG. 12

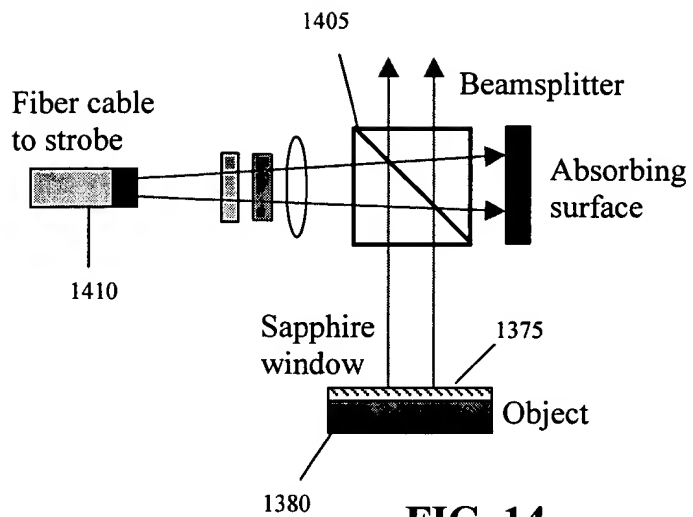


FIG. 14

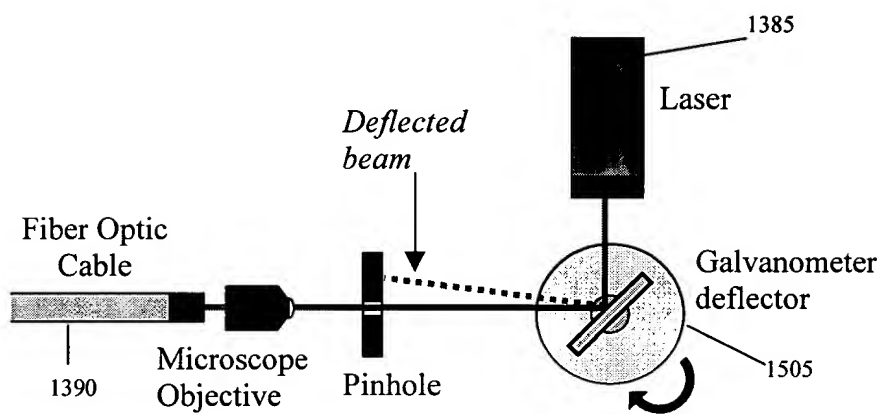
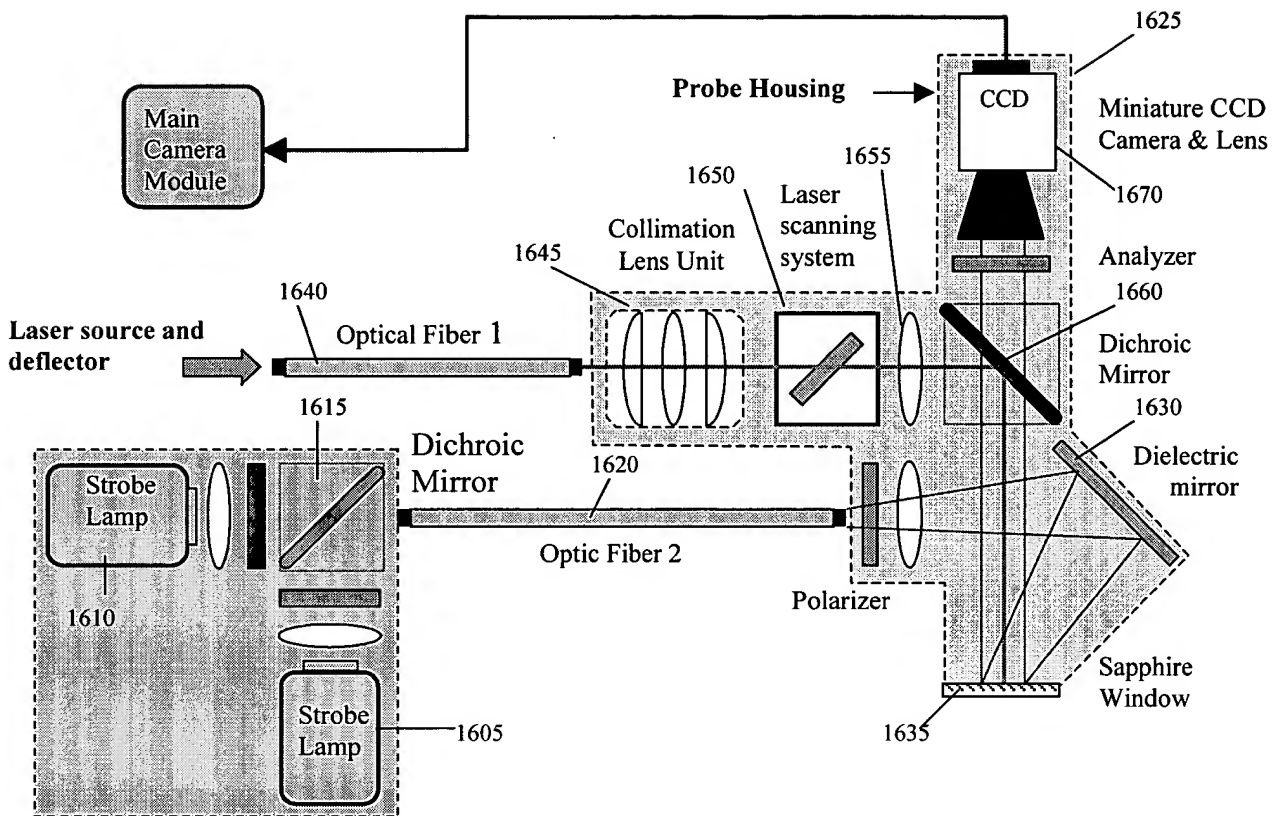


FIG. 15



1600

FIG. 16

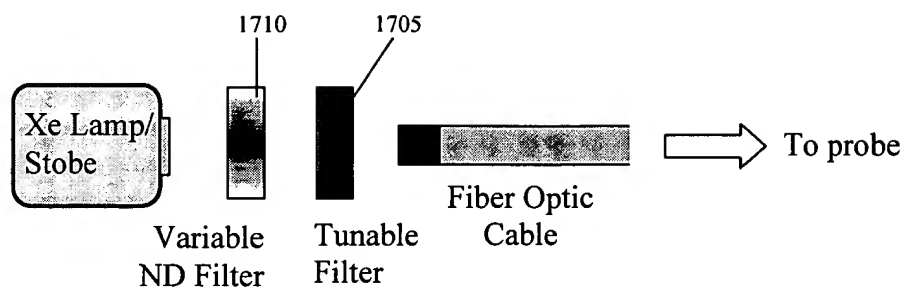


FIG. 17

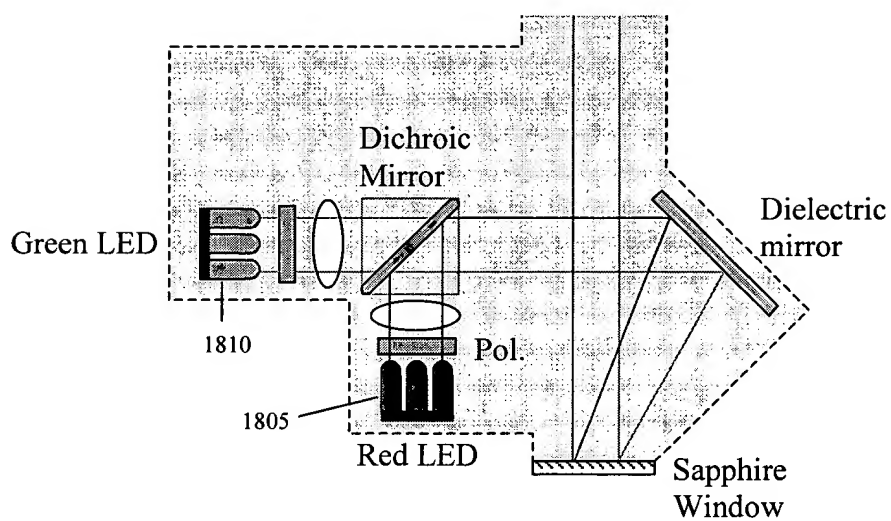


FIG. 18

Parabolic Line Profile

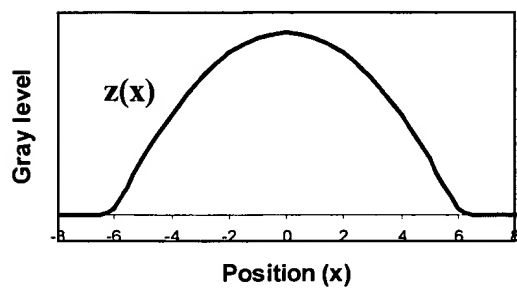


FIG. 19A

First Derivative Profile

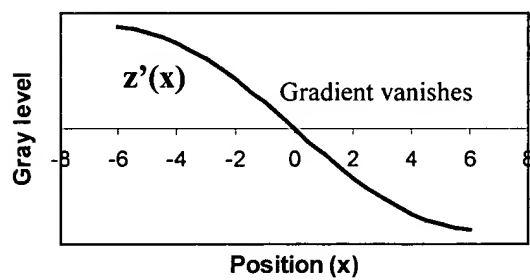


FIG. 19B

Second Derivative Profile

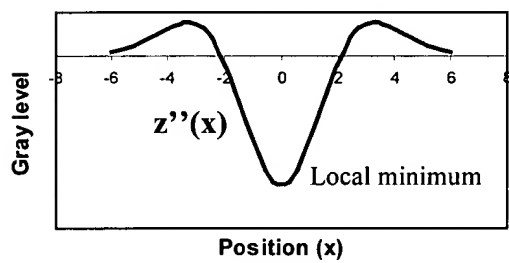


FIG. 19C

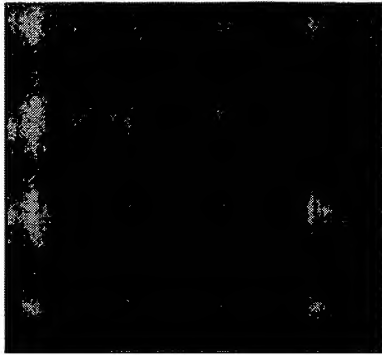


FIG. 20A



FIG. 20B

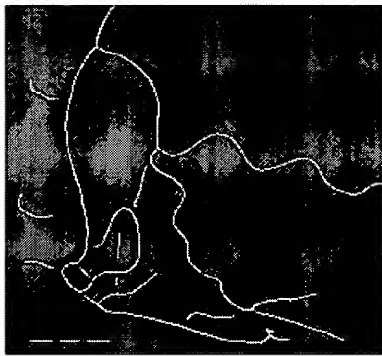


FIG. 20C

2020-11-504850

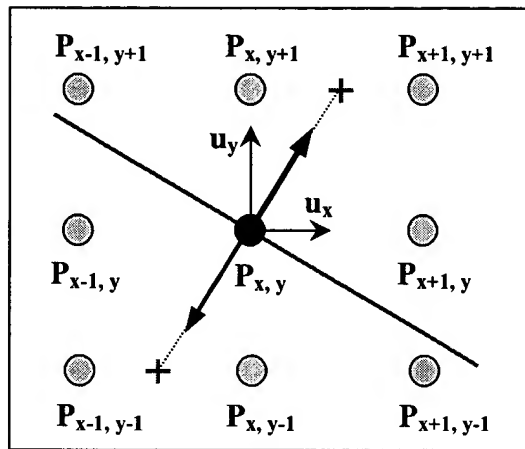


FIG. 21

20250220-14502850





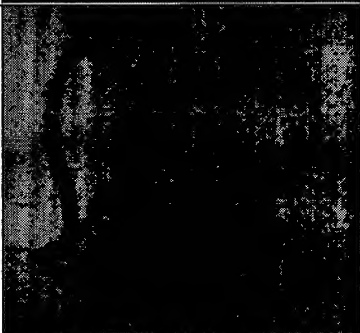

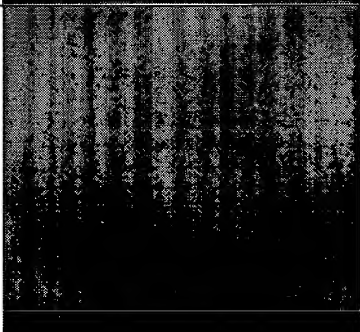

Characteristic of Noise Added	Noise added image		Result of algorithm	
No noise added				
$\mu = 0.0$ $\sigma = 0.00008$				
$\mu = 0.0$ $\sigma = 0.0002$				
Histogram rescaled to reduce contrast				

FIG. 22

No.	Process	Time (sec)
1.	Direct Convolution: $\sigma = 3.0$	3.9
2a.	Recursive Filtering: $\sigma = 3.0$ <i>4th order IIR filter</i>	3.3
2b.	<i>3rd order IIR filter</i>	3.0

FIG. 23

2020-11-50/2860

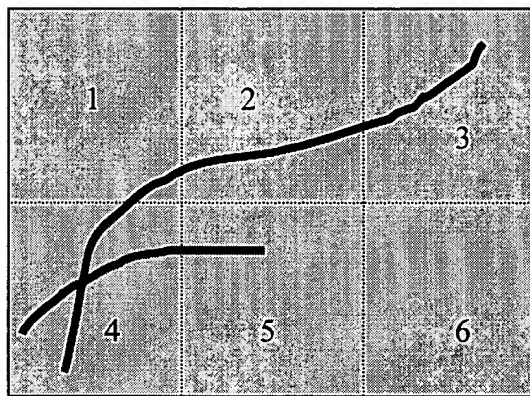


FIG. 24A

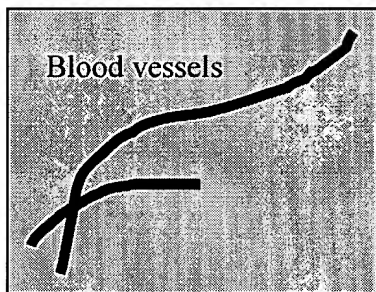


FIG. 24B

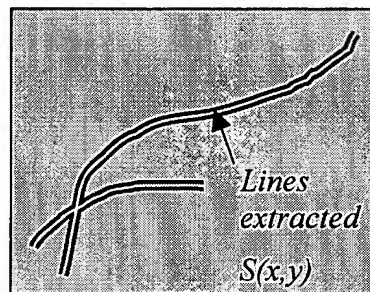


FIG. 24C

205020-14504850

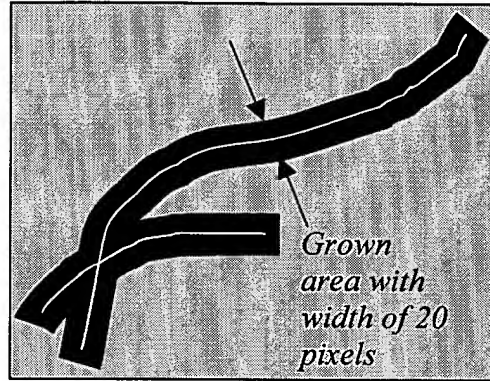


FIG. 24D

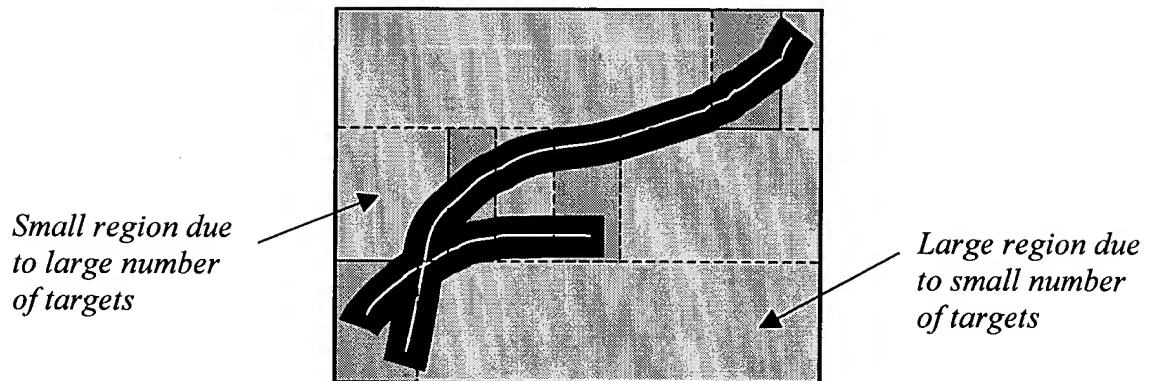


FIG. 24E

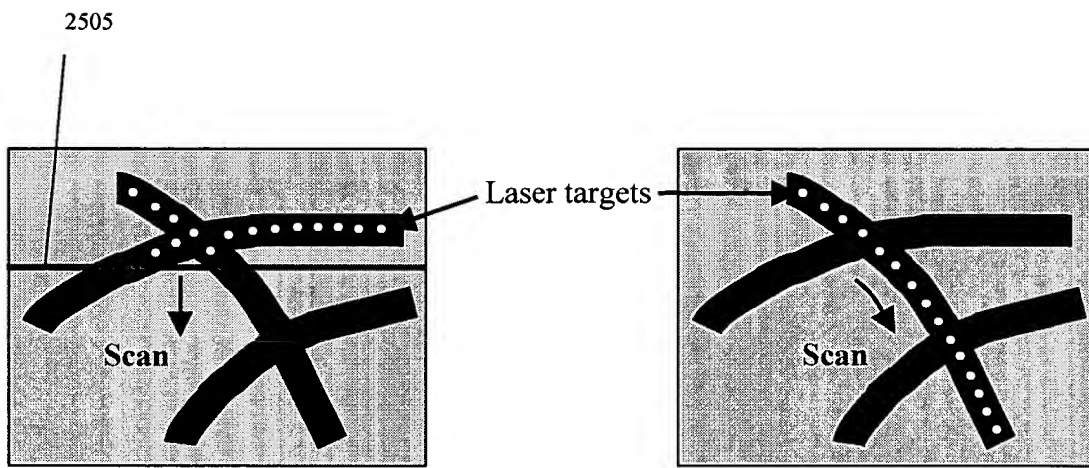


FIG. 25A

FIG. 25B

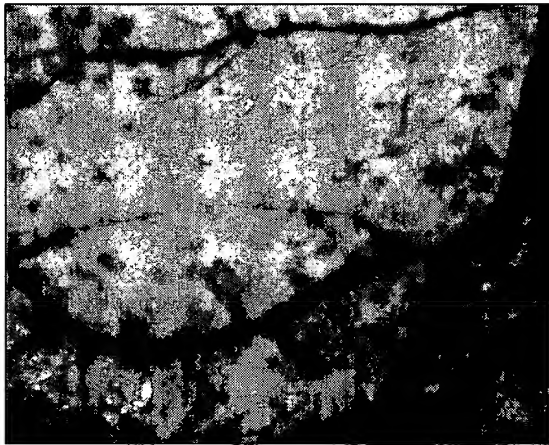


FIG. 26A



FIG. 26B

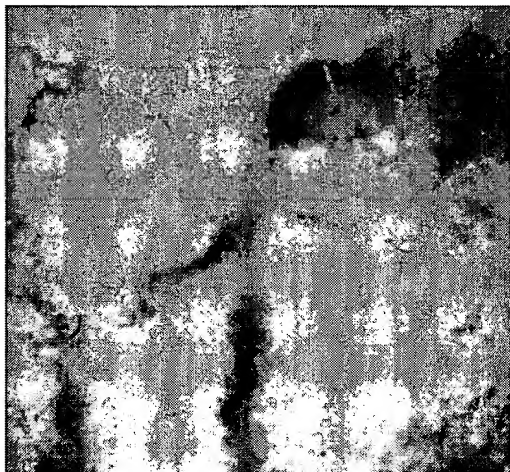


FIG. 27A

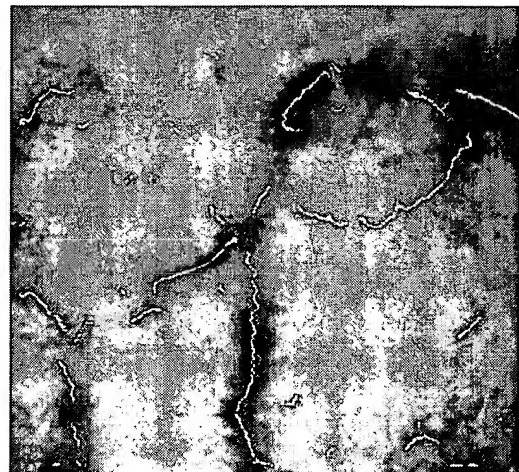


FIG. 27B

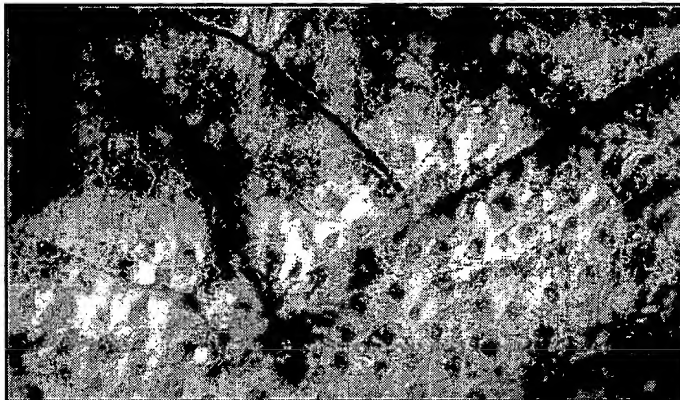
205020-44504860

Laser	Coherent Innova 100 CW Argon Laser
Wavelength	514 nm
Beam diameter	750 μm
Power	1 watt
Pulse width	80 ms (CW laser pulsed mechanically)
Fluence	$18.1 \times 10^4 \text{ J/m}^2$

Treatment laser parameters

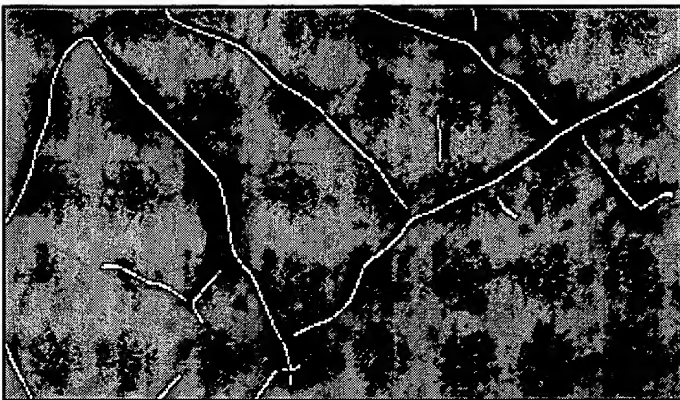
FIG. 28

205020-4450/860



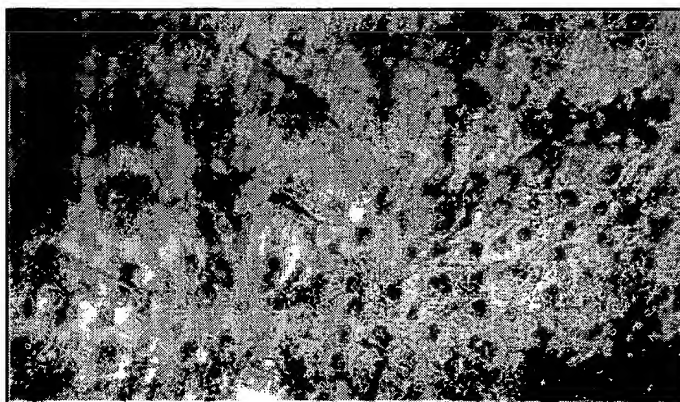
*Blood vessels before treatment
(illumination at 577 nm).*

FIG. 29A



*Targets identified by the Smart
Scalpel.*

FIG. 29B



*Blood vessels immediately after
treatment.*

FIG. 29C

205020-44504860

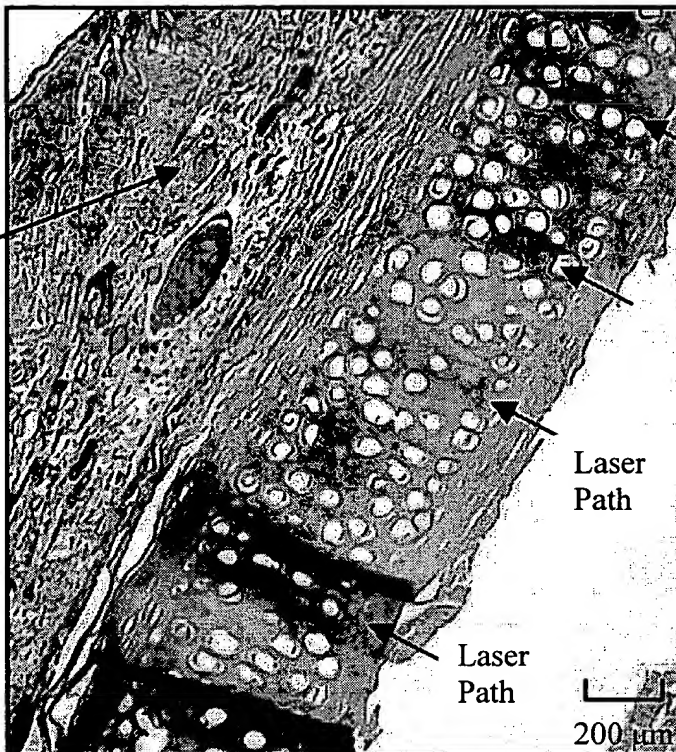
200 μ m

Blood
vessels

Laser
Path

Laser
Path

200 μ m

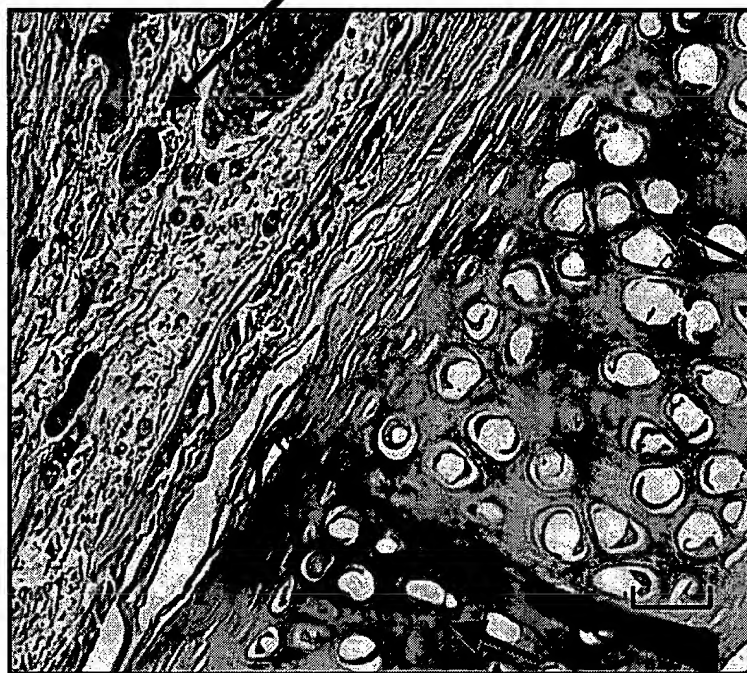


Histology results

FIG. 30

205020-4450/360

Blood
Coagulation



Laser
path

Close-up view showing coagulated blood vessels

FIG. 31

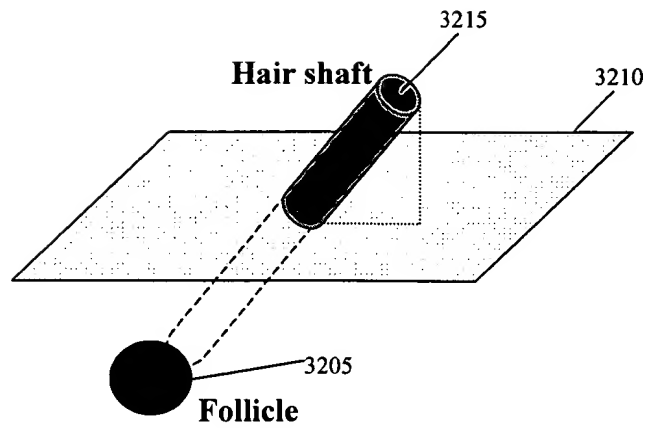


FIG. 32A

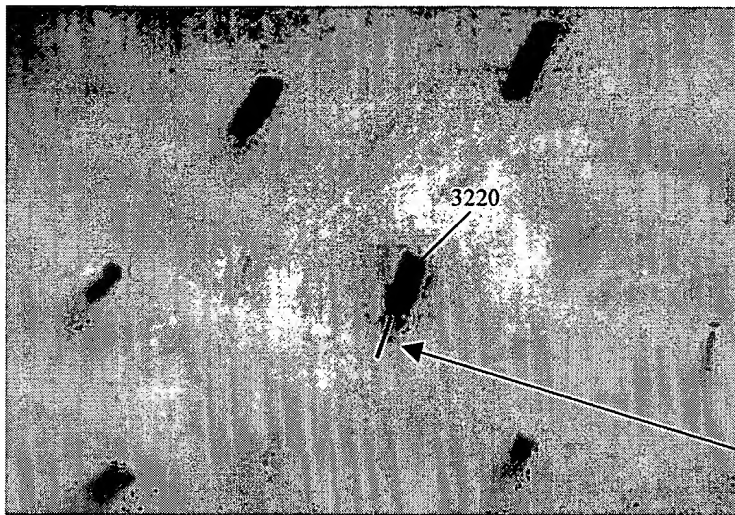


FIG. 32B

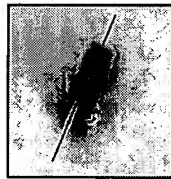
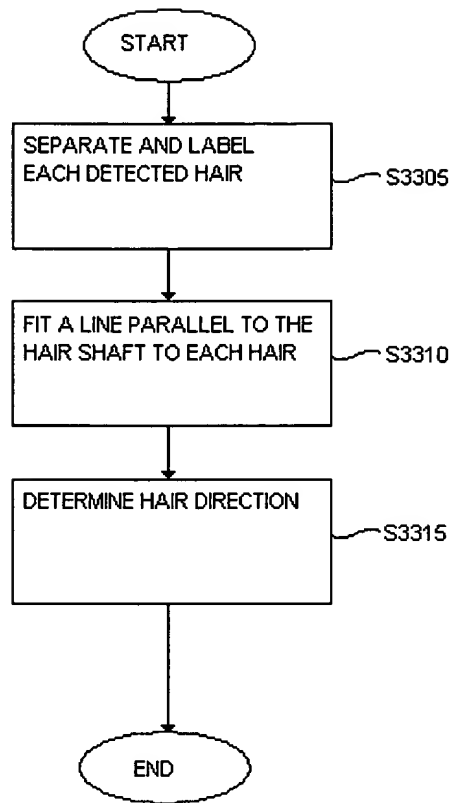


FIG. 32C



FIG. 32D

205020-1450/860



3300

FIG. 33